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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/919,798      | 08/02/2001  | Hong Bae Park        | 041501-5440         | 4306             |

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EXAMINER

HODGES, MATTHEW P

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2879

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/919,798

Applicant(s)

PARK, HONG BAE

Examiner

Matt P Hodges

Art Unit

2879

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-24 is/are pending in the application.
- 4a) Of the above claim(s) 14-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment, filed on 05/27/2003, has been entered and acknowledged by the Examiner.

Cancellation of claims 1-7 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vollkommer et al. (US 6,034,470) in view of Kuznetzoff (US 4,270,823).

Regarding claims 8-10, Vollkommer discloses (see figure 6b) a display device including a first substrate (7), an anode (25a) being formed on the substrate, a first dielectric material (28) covering the anodes and substrate, a reflective layer (30), a first phosphor layer (31), a discharge space, a second phosphor layer (32), a second dielectric layer (29), and a cathode (24) covered by the dielectric and formed on the second substrate (8). (Column 12 line 43 – Column 13 line 12). Further the two substrates are connected in a gas tight fashion to the frame by glass solder. (Column 10 lines 54-59). Vollkommer does not appear to specify the use of grooves formed on

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the substrates to accept the electrodes formed on the substrates, however, Kuznetzoff (see figure 1), in the field of planar panels, discloses the use of grooves formed in the top and bottom substrates facing each other and the nesting of the electrodes formed on the substrate into the grooves. These electrodes are necessarily smaller in width than the grooves for which they are located as is required for any object located inside another object. (Column 1 lines 46-60). The use of slots is known in the art to advantageously allow for high precision discharge electrodes and can increase adhesion between the substrate and electrode. (See Miyazaki 'US 5,800,232' Column 3 lines 21-34). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the use of grooves formed on the substrates to accept the electrodes formed on the substrates as disclosed by Kuznetzoff into the display device taught by Vollkommer in order to advantageously allow for high precision discharge electrodes and increase adhesion between the substrate and electrode.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vollkommer et al. (US 6,034,470) in view of Miyazaki (US 5,800,232).

Regarding claims 11-13, Vollkommer discloses (see figure 6b) a display device including a first substrate (7), an anode (25a) being formed on the substrate, a first dielectric material (28) covering the anodes and substrate, a reflective layer (30), a first phosphor layer (31), a discharge space, a second phosphor layer (32), a second dielectric layer (29), and a cathode (24) covered by the dielectric and formed on the second substrate (8). (Column 12 line 43 – Column 13 line 12). Further the two substrates are connected in a gas tight fashion to the frame by glass solder. (Column 10 lines 54-59). Vollkommer does not appear to specify the use of grooves formed on

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the first substrate where both electrodes are placed on the substrate, however, Miyazaki (see figure 1), in the field of planar panels, discloses the use of grooves formed on the bottom substrate nesting both the electrodes. (Column 4 lines 14-32). Placing both electrodes on the bottom substrate serves to simplify manufacture by requiring grooves only be formed on one substrate and the forming of electrodes can be done simultaneously on the same surface. Further the second dielectric layer can be removed thus lowering cost. Finally, the use of slots is known in the art to advantageously allow for high precision discharge electrodes and can increase adhesion between the substrate and electrode. These electrodes are necessarily smaller in width than the grooves for which they are located as is required for any object located inside another object. (Column 3 lines 21-34). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the use of grooves formed on the first substrate where both electrodes are placed on the substrate as disclosed by Miyazaki into the display device taught by Vollkommer in order to advantageously allow for high precision discharge electrodes, increase adhesion between the substrate and electrode, and lower manufacturing cost.

### *Response to Arguments*

With respect to the claim language of claims 8 and 11 applicants additional recitation of the electrodes being smaller in width than the grooves in which they are located does not appear to add any additional limitations to the structure. The placement of electrodes inside the grooves necessarily dictates that the electrodes are smaller in width than the grooves in which they are formed. This does not however mean that there exist gaps between the electrode and the groove

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walls in each of the grooves as is indicated in the drawings (see for example applicants figure 6).

However nothing in the current claim language indicates that such gaps exist.


As allowable subject matter has been withdrawn this action is made non-final.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (703) 305-4015. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

mph   
September 2, 2003

